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siderably in advance of the ovary; the intromittent organ forms a prominence in the floor of the respiratory chamber, and finally the generative orifices open on the right side."

II. "On the Sea Saw-dust of the Pacific." By JOHN DENIS MACDONALD, Esq., Assistant Surgeon R.N. Communicated by Captain DENHAM, R.N., F.R.S. Received January 13, 1857.

(Abstract.)

In this communication the author gives a description (illustrated by figures) of the remarkable little algal so frequently met with in the South Pacific, scattered over the surface of the water in broad streaks and patches of a pale yellowish-brown tint, and which is known under the name of "Sea Saw-dust."

After adverting to the occurrence of a similar phenomenon in other parts of the globe, and citing the account given of the *Trichodesmium erythraeum* of the Red Sea by MM. Evernor Dupont and Montagne, together with a description extracted from the 'Colombo Herald' of May 14, 1844, of what was obviously an example of a vegetable scum of the same kind occurring on the sea off Ceylon, the author remarks, that in the instances met with by himself he did not recognize the foetid odour so generally and pointedly spoken of in the accounts of others. He then states results of his own observation as follows :—

"It was rather difficult at first to determine whether our species is to be referred to the Oscillatoridæ or the Confervidæ. In the latter, a linear series of tubular cells compose the filaments, which are thus said to be jointed, but in the former, although the filaments are tubular, simple and continuous without actual joints, a pseudo-jointed appearance is presented by the apposition of the little masses of contained colouring matter. Notwithstanding, having submitted the 'sea saw-dust' of the Pacific to microscopic examination on several occasions, I was much inclined to believe that the filaments were actually jointed; and this view is supported by the cir-

cumstance that an empty tubule, or one in which the parietes may be traced continuously without being interrupted by joints or internal septa, has never fallen under our notice ; besides which the filaments are exceedingly brittle, usually suffering cleavage in the transverse direction. It, however, undoubtedly belongs to the *Oscillatoridæ*.

“When the filaments are first removed from the water, they may be observed adhering side by side in little bundles or fasciculi ; and besides the colouring matter, the little cells, or at least the intervals between the septa, contain globules of air, which sufficiently account for their buoyancy ; and, moreover, in this respect, although their abiding place is the open ocean, their habit can scarcely be regarded as very different from that of those species which flourish in damp localities exposed to the atmosphere.

“The filaments are all very short compared with their diameter, with rounded extremities ; and when immersed some little time in fluid so that the contained air-bubbles make their escape or are taken up, the pale colouring matter appears to fill the cells completely, and a central portion, a little darker than the rest, may be distinctly perceived in each compartment intersected by a very delicate transverse partition.

“We have found this species off the coast of Australia and in Moreton Bay, amongst the Polynesian Islands, and on two separate occasions off the Loyalty Group, in nearly the same geographical position.”